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Legacy lives on in patented reporting system

by Maj. Michael Kelley, AFMC Public Affairs

Thomas Edison, great American scientist and inventor, would be proud, maybe even a little jealous of the inventions and transfer of technology sponsored and sustained by Air Force Research Laboratory's Office of Scientific Research in Arlington, Va.

Edison, who created the world's first industrial research laboratory, was also a prolific inventor and holder of more than a thousand patents. History shows tremendous change took place in his lifetime and he was responsible for making many of those changes occur with his inventions.

In many ways his legacy of invention and commitment to technology application has been transferred to AFOSR, which orchestrates the national Air Force basic research program with universities, industry, other government organizations, and the Air Force Research Laboratory's other technology directorates.

But unlike Edison, who borrowed a small sum of money from an acquaintance to strike out as a freelance inventor, AFOSR maintains an annual budget to fund research designed to bring new technologies to light. AFOSR's budget this year is in excess of $213 million and they maintain a stable of nearly 40 Nobel laureates from the nation's top universities who's job it is to lead the discovery, development and timely transition of affordable technologies to the Air Force.

"We invest in basic, or fundamental, research to help us expand our knowledge of the natural and engineered world," said Lt. Col. Marshall Caggiano, AFOSR Staff Judge Advocate General. "If you don't have basic physics research, like what we sponsor, you wouldn't have the laser or mammography, for example.

"You've heard of the 'tip of the spear,' well, we're the handle," he said. "Sometimes it may be 10 years before we see any commercialization of the research we sponsor, so we're much farther down the food chain. We're providing the building blocks of what's going to happen in the future."

Those building blocks are inventions, which receive patents, facilitated through AFOSR in research areas such as space sciences, physics, propulsion, fluid mechanics, electronics, math and computer sciences, chemistry and biological sciences.

Grants from AFOSR to universities and non-profit organizations along with contracts with industry are the instruments used to create inventions unimagined in Edison's time.

Top universities such as Stanford, Princeton, Caltech and MIT along with contractors like Raytheon and General Electric benefit from Air Force sponsored grants to conduct their research, and the Air Force benefits by retaining the license to practice the inventions, explained Caggiano.

Over the years, the flood of resulting intellectual property derived through federal funding has created a tidal wave of paperwork and bureaucracy, which has only recently begun to recede thanks to the creation of a patent reporting and tracking system appropriately called "Edison."

Designed and developed by the National Institutes of Health, Edison enables AFOSR and other participating federal agencies to automatically manage invention and patent compliance responsibilities, said TSgt. Almaria Jordan, patent administrator and law office manager in the AFOSR staff judge advocate office.

The driving force behind the new invention tracking system was the Bayh-Dole Act of 1980, which gave grantee organizations and contractors the title to inventions arising from federal funding.

"The government retains the license to practice the invention and the result is commercialization of federally funded inventions," said Jordan.

The revolutionary Internet-based invention reporting program and database replaced AFOSR's archaic and redundant paper-based process saving innumerable man-hours and money, according to the

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paralegal patent clerk.

"We are now using a secure system to ensure federal inventions are reported in a timely fashion with no loss of rights due to mistakes, inaccuracies or inefficiencies," she said. "The number one benefit of this interactive web-based system is that our grantees can self-report their inventions and the system automatically tracks and prompts them for milestones in the patent process."

Edison is billed primarily as a time saving mechanism that acts as a historical archive reducing filing and increasing system responsiveness. So far it's delivered beyond even what AFOSR officials had hoped.

Tom Cundert, director of intellectual property law in AFMC's law office at Wright-Patterson AFB, Ohio, couldn't agree more.

The registered patent attorney said the program shows a great deal of promise.

"No question. This is the way things are going to be done in the future," he said. "I think Edison has a great deal of promise."

Thanks to Edison, AFOSR is leading the way for the Air Force as the only test site processing and collecting data on contractor inventions.

"We're the front runner and the first military service to incorporate this program," said Caggiano. "The Department of Defense is now coming on board and the list of participating federal agencies is growing.

"As we move into the information age we want to provide superior tracking, compliance and data to better document the success of our research grant and contract programs," he said.

Since Edison came on line in 1997, more than 270 grantees and contractors have logged on and loaded inventions into the database. Participating agencies include the Food and Drug Administration, the Army and Navy, the Department of Commerce, the Environmental Protection Agency and a host of others.

Caggiano pointed out that between 1991 and 1997 the impact of the Bayh-Dole act and resulting Edison project is that patent applications more than double across the federal government. Patents issued increased from 1,267 to 2,146 and total license income received increased from $153 million to $507 million.

And, according to Jordan, scores of grantees and contractors are entering invention and patent information into the web-based database reducing the load on the federal government and her personally, since she is the single point of contact for all AFOSR funded inventions.

In the six months six AFOSR began using Edison, grantees have collectively entered a combined 179 inventions into the system. **@**